

## CLAIMS

1. A method of metering granular material, which comprises:  
providing a motor-driven dispensing element mounted for rotation about an axis  
of oscillation or partial rotation, and having a duct substantially shaped as an  
5 elbow, extending transversely with respect to said axis of oscillation, one end of  
said duct being in communication with a granular material feeding source,  
whereas its other end constantly contains granular material,  
causing said dispensing element to swivel or oscillate to discharge granules  
through said other end in a pulsated manner through a number of cycles  
10 corresponding to a specified amount of granules to be dispensed, and  
stopping any oscillation of said dispensing element upon reaching a  
predetermined weight threshold of discharged-dispensed granules.
2. A method as claimed in Claim 1, comprising a step of detecting the weight of the  
granules dispensed-discharged by said dispensing element.
- 15 3. A method as claimed in Claim 1, wherein oscillation angle of said dispensing  
element is a function of the inner light size of said duct.
4. A method as claimed in Claim 3, wherein swivelling angle of said dispensing  
element is in the range from 10 and 90 degrees.
5. A high precision metering device for granular material which comprises at least  
20 one dispensing element, driving means arranged to control said dispensing  
element, and a program control unit suitable for controlling said driving means  
and stopping upon reaching a predetermined amount of granules dispensed by  
said dispensing element, and wherein said dispensing element, or each  
dispensing element, is mounted for rotation about an axis of oscillation or partial  
25 rotation and has a duct substantially shaped as an elbow extending transversely  
with respect to said axis of oscillation, thereby having a first substantially vertical  
duct portion that, in use, is permanently filled with granular material, and a  
second duct portion extending in a transverse direction with respect to said first  
portion and in communication therewith, thus constantly containing granular  
30 material which, in a rest condition, is kept therewithin owing to angled structure  
of said dispensing element, and wherein said driving means is designed to

cause, upon control, said dispensing element to rotate or swivel about said axis of oscillation, thereby causing granules of material to be released from said second portion of said dispensing element each time said dispensing element is caused to oscillate or partly rotate.

- 5 6. A device as claimed in Claim 5, wherein said dispensing element is shaped as a substantially cylindrically shaped rotor.
7. A device as claimed in Claim 6, wherein said dispensing element is made of a light material.
8. A device as claimed in Claim 7, wherein said dispensing element is covered with  
10 a metal jacket.
9. A device as claimed in Claim 6, wherein said first duct portion has an inner light tapering towards said second duct portion.
10. A device as claimed in Claim 6, comprising a pair of support lugs or pins arranged opposite to one another and axially aligned for rotatably supporting said  
15 dispensing element.
11. A device as claimed in Claim 5, wherein said driving means comprises a linear actuator.
12. A device as claimed in Claim 11, wherein said linear actuator comprises a fluid-operated cylinder and piston assembly.
- 20 13. A device as claimed in Claim 5, wherein said driving means comprises an on-off electrovalve arranged to be controlled by said control unit.
14. A device as claimed in Claim 13, wherein said on-off electrovalve is located close to said source of granular material.
15. A device as claimed in Claim 13, wherein said on-off electrovalve is arranged to  
25 be connected to said control unit by means of at least one connecting device.
16. A device as claimed in Claim 5, comprising a motion transmission assembly between said driving means and said dispensing element.
17. A device as claimed in Claim 13, wherein said driving assembly comprises a rack controlled by said linear actuator and a toothed wheel integral in rotation with  
30 said rotor and meshing with said rack.

- 18.** A device according to Claim 5 to 17, wherein, in use, said dispensing element swivels through an angle in the range from 10 to 90 degrees.
- 19.** A device as claimed in Claim 18, comprising a support frame designed removably and rotatably to support said dispensing element.
- 5 **20.** A device as claimed in Claim 5, comprising sensing means for detecting the amount of granules dispensed by said dispensing element.
- 21.** A device as claimed in Claim 20, wherein said sensing means comprises an electronic balance.